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COVER: Trophy Buck by Lee Gladfelter.
Back Cover Art — 1980 Wildlife Habitat
Stamp by Andrew Peters, Missouri Valley.

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DEER MANAGEMENT IN IOWA

by
Lee Gladfelter
Wildlife Research Biologist

Photo By Author



The short, cool days of fall stimulate primitive emotions in a distinct group of sportsmen — deer hunters. Thoughts of the upcoming season create a restlessness that is only partly satisfied with trips past the ol' deer woods, fiddling around with hunting gear, purchases of new hunting hats, knives, and shells, and the exchange of "yarns" with hunting buddies during Monday Night Football, poker games, at the grocery store, or after church. Most hunters are thinking about where to go, which shotgun to use, what the weather will be like, is the boy old enough to go along this year, and other important things. Few have given any thought to deer management and how it affects the sport they love so much. It may be taken for granted since we have been hunting deer for 28 years and only when there are big changes like modified bucks-only licenses, going from 5 to 10 hunting zones, or choosing between 2 different seasons, does anyone sit up and take notice. But good deer management is important to the hunter, farmer, and conservationist alike since it affects a wildlife resource that influences their lives in some small way. What is it, why does anyone bother, how does it happen, and who is responsible?

According to Webster's dictionary, management means "the act, art, or manner of managing, or handling, controlling, directing,..." Most of us have some experience with making management decisions. We have to manage our budget, time, business, home, children, and many other routine occurrences in life. The steps are the same regardless of the subject: 1. Set objectives or goals to work toward. 2. Initiate actions or programs to reach these goals. 3. Evaluate results to measure success. Let's follow these steps as we look briefly at how deer are managed in Iowa.

Deer management goals are to: 1. Protect the wildlife resource by maintaining a stable to slightly increasing population. 2. Harvest surplus animals to prevent excessive agricultural crop damage. 3. Conduct hunting seasons that provide the maximum amount of quality hunting recreation possible. These goals are accomplished by monitoring population trends, regulating hunting to provide proper harvest, beneficial habitat manipulation, a progressive research program, and active law enforcement.

Harvest manipulation is the primary management tool because hunting is the largest mortality factor for deer. Their numbers must be regulated to prevent excessive crop damage and loss of revenue by landowners. This can best be accomplished by allowing hunting seasons that provide both control of the herd and quality recreation. The most important component of a sound harvest strategy is a good knowledge of annual population trends on a regional basis. These trends are determined from changes in the number of deer reported killed in traffic accidents, as related to traffic volume, and conservation officer estimates of winter populations. New census techniques being studied are: winter aerial counts and spring spotlight surveys along 30-mile routes.

Information recorded on post-season hunter report cards is used to evaluate results of hunting seasons. Estimates are obtained of number of deer harvested, success rates, effort, sex ratio, and crippling rate. Also, age composition is calculated from a sample of teeth returned by successful hunters. A small slice of each tooth is stained and placed under a microscope to count growth rings which relate to age. This information is utilized to predict average life expectancy and to monitor annual trends in age ratios.

It might be interesting to mention some highlights of the 1980 season before expectations for 1981 are discussed. A new record high harvest was reported in 1980 with an estimated 22,600 deer taken by 77,320 shotgun and 15,398 bow hunters. The previous record was 21,200 harvested in 1975. Shotgun hunters accounted for 18,800 deer while archers harvested around 3,800. The excellent harvest was accomplished because of record high hunter numbers, good fall deer populations, higher any-sex license quotas, and mild weather during the December shotgun season. Hunting areas with the highest shotgun harvest were zone 6 with 2,970 taken, followed closely by zone 5 with 2,900, and zone 4 with 2,600 (Figure 1). Bucks-only shotgun hunters reported a 21% success rate while any-sex shotgun hunters averaged 56% and bowhunters 26%. The highest shotgun success rates were reported in zones 1, 2, and 10. Limited habitat in these areas makes deer highly vulnerable to hunters. About 1/2 million days were spent in the field during the 1980 season.

It will be hard to top the record high harvest taken last fall, but population trends indicate there will be plenty of deer available this year and with good weather it may happen. The 1981 shotgun season will again be split with hunters allowed to choose 1 season and zone combination. Split shotgun seasons have been very effective in reducing hunting pressure and maintaining quality and safety in the sport. The second season will have twice as many any-sex licenses as the first in all zones. This uneven distribution of any-sex licenses and a longer second season has helped equalize application, harvest, and success rates. The first shotgun season will be 4 days long (5-8 December) with a 7-day second season (12-18 December). The 56-day bow and arrow season is already in progress and will continue through 4 December.

Any-sex license quotas are closely controlled to provide proper harvest of does and fawns. High productivity rates allow harvest of a small percentage of does without jeopardizing herd growth. However, overharvest of does can result in a declining herd. License quotas are developed by first calculating the number of does that can be safely harvested in each of 10 hunting zones as determined from past harvest rates and changes in deer population trends. This allowable doe harvest is then expanded to a final quota by including unsuccessful hunters, hunters that harvest bucks (average determined from previous hunting seasons), and those that will not hunt. Restricted license issue also provides some protection for buck fawns during their first year of life. This increases their survival rates allowing a large number of them to enter the next fall as antlered 1 1/2-year-olds; this increases the number of legal animals available for the bucks-only hunter.

Bucks are polygamous (have more than 1 mate) and breeding is usually performed by the dominant animal in an area. One buck may mate with as many as 10-15 does. This leaves a surplus, in a population with a nearly equal sex ratio, that can be harvested without jeopardizing reproductive success. Therefore, by requiring a large percentage of the hunters to harvest an antlered buck, more hunting pressure is placed on bucks than on does and fawns. The white-tailed buck is one of the most challenging animals to hunt because of his keen senses and instinct for survival. Their elusiveness enables many dominant bucks to survive and carry on reproductive tasks. In addition, there are plenty of trophy bucks available to provide the ultimate thrill for sportsmen. This is confirmed by Iowa's

rank of second out of the 50 states in number of trophies entered in the Pope and Young record book (bow and arrow) and eighth in Boone and Crockett Club records (firearms).

One important change this year is allowing buck-only hunters to hunt statewide without zone restrictions. Since the major emphasis is on controlling the regional harvest of does and fawns, it is not necessary to restrict the buck-only hunters. This regulation will also help alleviate problems with land-owner-tenants that own or operate farms in several hunting zones. With a buck-only license they will be able to hunt on their own property anywhere in the state. Any-sex hunters are still required to hunt within the zone designated on their license.

Other changes for 1981 include dropping the buck-only restriction for the first season in hunting zone 7. Population trends indicate good increases in this zone and therefore a higher number of any-sex licenses can be allowed. Statewide, any-sex license quotas were increased by about 18% from 1980 (Table 1). Also, the bucks-only certificate program will be continued. Certificates are issued to bucks-only hunters giving them preference in the any-sex license drawing the following year. The certificate does not guarantee a hunter will obtain an any-sex license but does increase his chances. Other regulations such as bag limit, shooting hours, and zone boundaries will remain the same.

In addition to formulating a harvest strategy, the deer program is involved in habitat improvement on public and private land since food and cover are necessary to sustain good populations. Forest areas which provide critical winter habitat should be preserved by restricting clearing for pasture or crops. The only clearing that may be beneficial is in extensive timber tracts where 1-3 acre patches stimulate growth of woody browse, forbs, and grasses. Woodlands should be protected from grazing since livestock compete for food and jeopardize forest regeneration and succession. Deer rely heavily on corn as a food source and proper management of agricultural land can be very beneficial. Fall plowing should be discouraged because buried corn is unavailable to all wildlife. When possible, small food plots containing standing corn can be distributed around timbered areas to provide food for the critical winter period.

Research provides the foundation of knowledge necessary to determine proper management practices. Research projects have involved the study of home range, habitat selection, movement, reproductive rates, causes and extent of fawn mortality, new census techniques, hunter attitudes, food habits, poaching loss, and many other aspects of deer biology.

Another important part of good management is effective laws and an active law enforcement program that reduces illegal loss. Citizens can help this program by taking the initiative to report violations to proper enforcement authorities.

The prominence of white-tailed deer as a major game species in Iowa is a tribute to good hunter and landowner attitude and a progressive management, research, and enforcement program. Success of the deer management program can be highlighted by making a comparison between the first year of hunting and this past season. In 1953, 4,000 deer were harvested by 6,100 hunters during a 5-day season held in only 45 counties. In 1980, 22,600 deer were harvested statewide by 92,718 hunters during an 11-day season. In addition to this comparison, it is important to note that the population during the same period of time has tripled and now deer are probably more numerous than at any other time in our history. More importantly, the responsibility for the future of deer in Iowa depends upon the continued cooperation of hunters and landowners, preservation of critical timber habitat, legislative support, and professional management of the resource. □

Figure 1. Deer hunting zone boundaries.

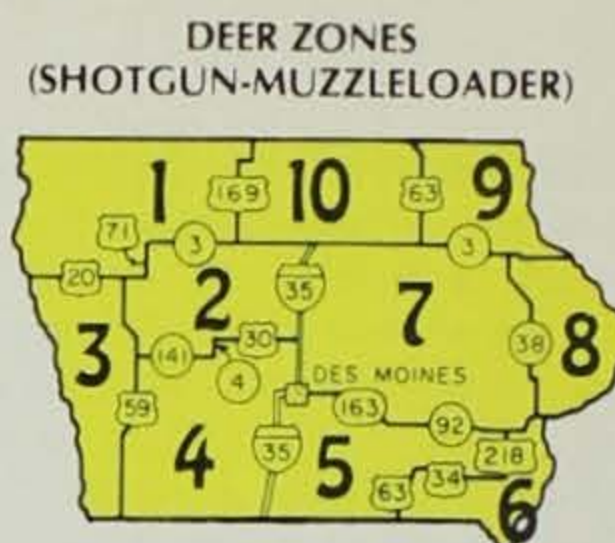


Table 1. The 1981 any-sex license quota by season and hunting zone.

Hunting zone	Any-sex quota	
	Season 1	Season 2
1	250	500
2	200	400
3	525	1050
4	500	1000
5	775	1550
6	975	1950
7	400	800
8	300	600
9	400	800
10	175	350

Lee Gladfelter has been employed with the Iowa Conservation Commission since 1969. He is stationed at the Wildlife Research Station located south of Ledges State Park near Boone. Gladfelter is in charge of white-tailed deer research.

Record Racks

It was another great year for the trophy deer rack program with nearly 70 entries being recorded. Although no state records were broken, Iowa hunters entered many racks of outstanding quality.

The largest racks measured in 1981 in their respective categories were taken by the following hunters:

Shotgun typical — Bill Walstead of Ledyard

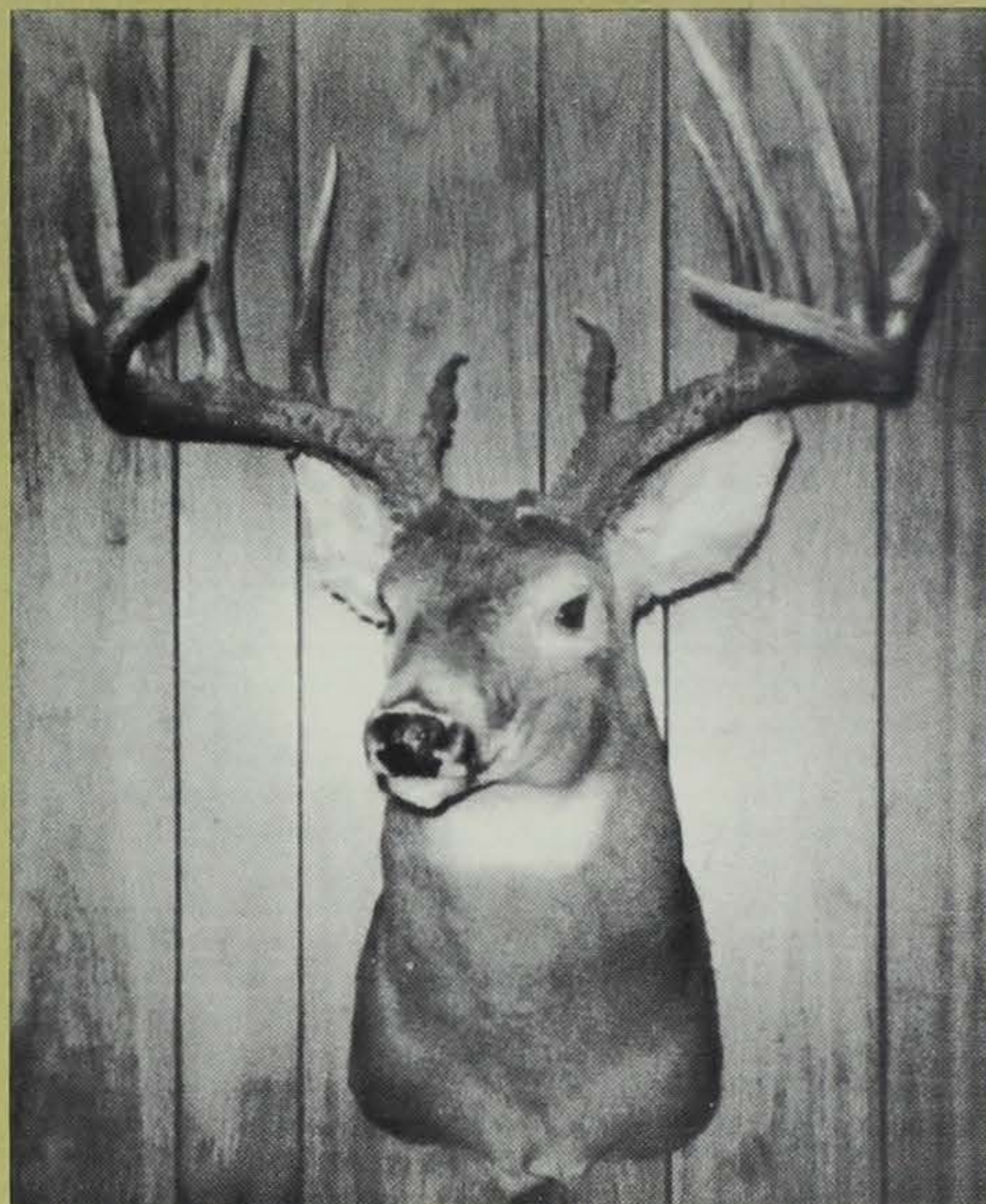
Shotgun nontypical — Pat Fleming of Sioux City

Bow and arrow typical — Don McCullough of Conesville

Bow and arrow nontypical — Dirk L. Hoover of Algona

Two trophy racks entered qualified for the all-time top 10 bow and arrow typical category. They were: Don McCullough of Conesville whose deer placed fifth in this category with a score of 174 $\frac{7}{8}$, and Bruce Jermyn of Des Moines with a trophy measuring 169 $\frac{2}{8}$ placing ninth.

In order to enter your trophy, it must be legally taken with bow and arrow or shotgun-muzzleloader within Iowa boundaries. If the rack meets minimum scoring standards, you qualify for a certificate and a colorful shoulder patch in recognition of your feat. Unentered deer taken in past seasons as well as the present are eligible for entry. To have the rack officially measured, simply contact the Iowa Conservation Commission, Information and Education Section, Wallace State Office Building, Des Moines, Iowa 50319. After we receive notification, we will forward a name of an official scorer who may be contacted. Because of shrinkage in varying degrees when antlers dry out, they cannot be officially measured for at least 60 days from time taken.



Don McCullough's trophy ranks fifth on the All-Time Top Ten Racks in the bow and arrow typical category. The rack measured 174 $\frac{7}{8}$.

Big Buck Antlers Measured in 1981

SHOTGUN TYPICAL

(Minimum Qualifying Score — 150 Points)

Name	Address	Year	County Taken	Total Score
Bill Walstead	Ledyard	1974	Emmet	180 $\frac{1}{8}$
Clay Gronen	Epworth	1978	Dubuque	178 $\frac{5}{8}$
Gene McAlister	Danville	1980	Des Moines	172 $\frac{7}{8}$
Orlo DeBruin	Albia	1980	Lucas	171 $\frac{5}{8}$
Maurice Pierce	Dubuque	1965	Clayton	167 $\frac{7}{8}$
Tom Ford	Fairfield	1980	Jefferson	161 $\frac{7}{8}$
Mike Hobart	Prole	1980	Madison	161 $\frac{1}{8}$
Steve Pickle	New London	1980	Henry	161
John Augustine	Garden Grove	1980	Decatur	160 $\frac{5}{8}$
Valdean Engelhardt	Farmersburg	1969	Clayton	160 $\frac{1}{8}$
Mark Dolash	Marshalltown	1974	Marshall	159 $\frac{1}{8}$
Rick Gebhart	Indianola	1980	Marion	159 $\frac{1}{8}$
Marvin Mensching	Council Bluffs	1980	Page	159
Clark E. Moore, Jr.	Des Moines	1980	Madison	158 $\frac{7}{8}$
James T. DeWitt	Shell Rock	1980	Monroe	158 $\frac{1}{8}$
Joseph Bauer	North Buena Vista	1972	Clayton	156
Paul J. Maggio	Fort Dodge	1980	Webster	155 $\frac{1}{8}$
Harry Blomker	Rutland	1980	Humboldt	154 $\frac{1}{8}$
Gary Bosley	Shenandoah	1980	Fremont	154 $\frac{1}{8}$
Robert Spain, Jr.	West Des Moines	1980	Madison	154
Richard Weaver	Des Moines	1980	Wayne	153 $\frac{3}{8}$
Richard Nading	Strawberry Point	1975	Clayton	153 $\frac{3}{8}$
Steve Gilman	Stuart	1980	Page	153 $\frac{1}{8}$
Lyle Lund	Walcott	1980	Scott	153 $\frac{1}{8}$
Michael Downing	Charles City	1980	Chickasaw	152 $\frac{3}{8}$
Roy Anderson	North Liberty	1980	Johnson	152
C. E. Thompson	Carlisle	1980	Warren	152
Harvey Kulper	Guttenberg	1977	Clayton	151 $\frac{1}{8}$
Norman Moen, Jr.	Decorah	1980	Winneshiek	151
Rodney Perry	Moravia	1980	Monroe	151
Ronald Goemaat	Pella	1980	Marion	150 $\frac{7}{8}$
Rick Loving	Carlisle	1980	Madison	150
William B. Rybarczyk	Chariton	1979	Des Moines	150
Walter Scott, Jr.	Moravia	1974	Monroe	150
Robert A. Blank	Stanton	1980	Montgomery	149 $\frac{5}{8}$

SHOTGUN NONTYPICAL

(Minimum Qualifying Score — 170 Points)

Name	Address	Year	County Taken	Total Score
Pat Fleming	Sioux City	1975	Woodbury	191 $\frac{1}{8}$
Anthony L. Costello	Dallas Center	1979	Dallas	190 $\frac{3}{8}$
Leon DuPont	Sherrill	1980	Allamakee	175 $\frac{3}{8}$
Rev. Edward Maus	Aredale	1980	Lee	174 $\frac{1}{8}$
Phillip Hardt	Swea City	1979	Kossuth	171 $\frac{5}{8}$
Dirk Kann	Guttenberg	1980	Clayton	170 $\frac{1}{8}$
Neal Oldenburger	Aplington	1980	Butler	170 $\frac{1}{8}$

BOW AND ARROW TYPICAL

(Minimum Qualifying Score — 135 Points)

Name	Address	Year	County Taken	Total Score
Don McCullough	Conesville	1980	Muscatine	174 $\frac{7}{8}$
Bruce Jermyn	Des Moines	1979	Decatur	169 $\frac{2}{8}$
David Roberts	Victor	1980	Iowa	164 $\frac{7}{8}$
Gary Mitchell	Sioux City	1980	Plymouth	162 $\frac{3}{8}$
Larry K. Fossen	Moorland	1980	Webster	157 $\frac{3}{8}$
Edward L. Stevens	Killduff	1976	Jasper	152 $\frac{3}{8}$
Kirk Lundberg	Cedar Falls	1980	Tama	151 $\frac{7}{8}$
Lavern Robbins	Strawberry Point	1980	Clayton	149 $\frac{5}{8}$
Bryan Mueller	Keokuk	1980	Van Buren	146 $\frac{2}{8}$
Richard Minahan	LaPorte City	1980	Black Hawk	143
Charly Stills	New Virginia	1980	Warren	142 $\frac{7}{8}$
Roger DeGroot	Parkersburg	1980	Butler	141 $\frac{1}{8}$
Wayne Lau	Colesburg	1980	Clayton	140 $\frac{5}{8}$
Don McCullough	Conesville	1975	Louisa	139 $\frac{2}{8}$
Earl Brimeyer	Asbury	1977	Clayton	138 $\frac{1}{8}$
Grant A. Poindexter	Des Moines	1964	Warren	138 $\frac{1}{8}$
Don Klossner	Maquoketa	1980	Dubuque	137 $\frac{1}{8}$
Joy L. Anderson	Mapleton	1980	Monona	136
Robert Freiburger	Bellevue	1980	Dubuque	135 $\frac{5}{8}$
Dan Rhoads	Council Bluffs	1979	Pottawattamie	135 $\frac{1}{8}$
Earl Brimeyer	Asbury	1980	Clayton	134 $\frac{7}{8}$

(continued on Page 10)

HICKORY GROVE PARK

Resource Management Diversity in a County Park

by

Ken J. Krantz

Indian Creek Unit Ranger

Story County Conservation Board

Photos by Author

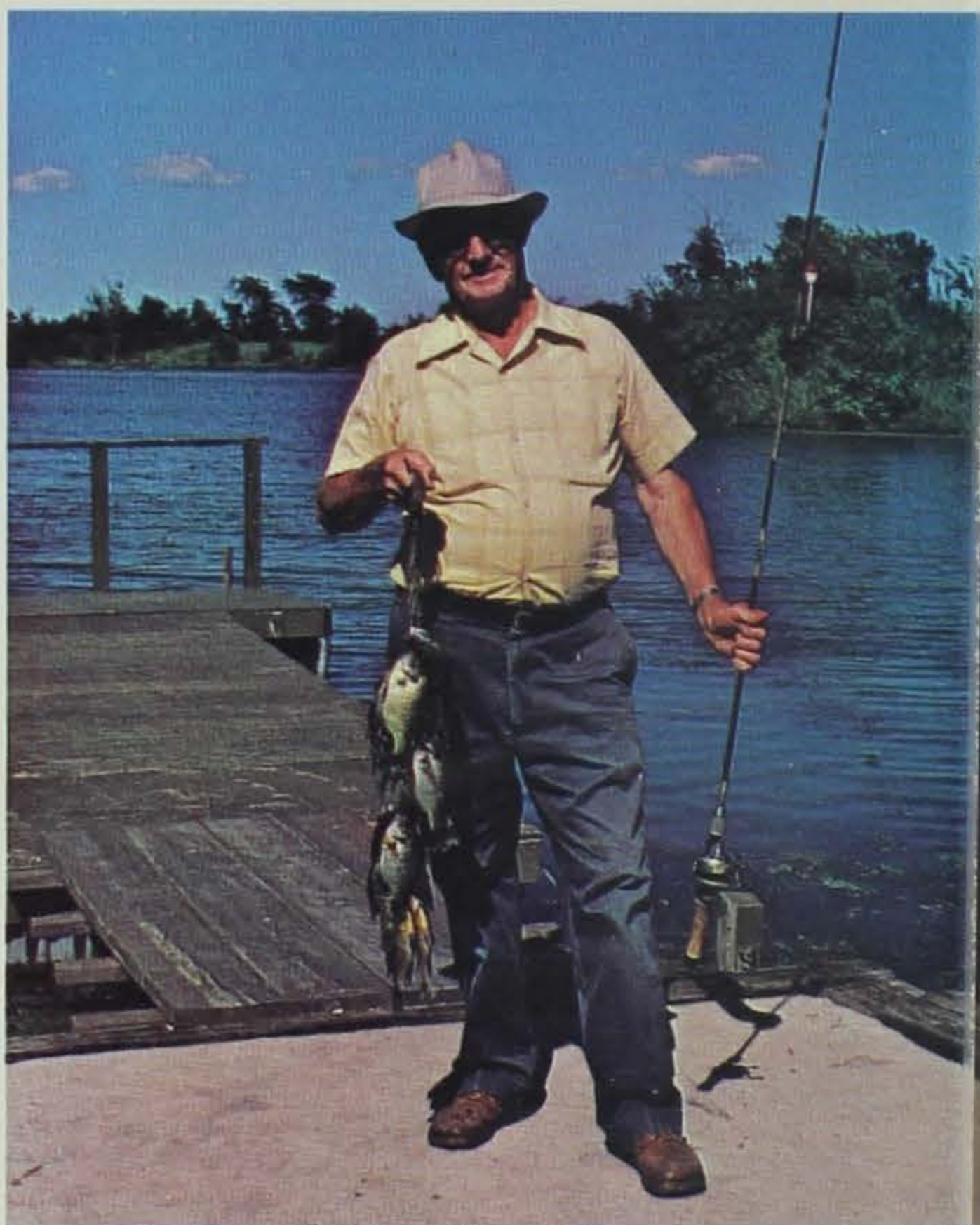
In the early 1850's switchgrass, bluestem, and Indian grass undulated gracefully, arraying the golds and ambers of an October sunset around Sam McDaniels' cabin. Sam's cabin was one of the first in central Iowa. Imagine the awe-inspiring view which he witnessed. There were no farms or houses to disrupt the endless prairie landscape — only the Indian Creek valley and its adjacent woods, known to these early Story County pioneers as "The Big Grove."

In 1964 the Story County Conservation Board began proceedings to acquire a 450-acre part of the "Big Grove" area to be used as a multi-recreational area. Labor Day 1968 marked the opening of Hickory Grove Park very near the old Sam McDaniels' cabin site. But a major change had occurred. A 98-acre lake was constructed where a creek valley existed before. I think Sam would be surprised!

Today, twelve years later, Hickory Grove Park is a popular park with an annual visitation exceeding one-quarter million people. It is a park managed under the principles of the multiple use concept to the fullest degree. Fishing, swimming, camping, boating, scuba diving, nature study, picnicking, cross-country skiing and hunting are among the recreational opportunities available at Hickory Grove Park. The Conservation Board also engages in farming and forestry operations in the park.

The primary management concern at Hickory Grove Park is "people management." Between May and September the influx of people using the area for recreation is a never ending flow. The location, midway between Ames and Marshalltown (less than forty minutes from Des Moines) and its proximity to Iowa State University's large student body, make for a large local populace to attract. User survey data has shown high use by citizens of central Iowa counties as well as many out-of-state visitors. The largest "people management" problems occur on warm Sunday afternoons and holidays when more than 5,000 people converge on the park at the same time.

More often than not, however, there is a good balance of recreationists enjoying the facilities. The hectic, hot Sunday afternoons of July are offset by the silent solitude of an icy January morning when only the diehard skier or ice fisherman dares face the wrath of winter. This is the other main "people management" problem the Conservation Board staff faces — how to increase winter park use. Hickory Grove Park provides many winter activities such as ice fishing, snowmobiling, cross-country skiing, sledding, and a lighted skating area with a warming house. Winter events are also sponsored by the Story County Conservation Board when weather permits. There is an annual Winter Snow Festival with contests, races, and exhibitions. Ice fishing contests are promoted and a well-attended "Ice Derby" day is also held annually. Improving the cross-country ski trail system and snowmobiling activities will assist in increasing winter park visitation.



Hickory Grove Park has a boathouse concession that sells park visitors bait and snack foods and rents canoes, boats, and paddleboats. The concession is operated by private interests who lease the building from the Conservation Board. It is hoped that the concessionaire will offer a warminghouse to ice fishermen, skaters, and skiers and will ultimately rent out winter sports equipment such as cross-country skis.

There are many fine opportunities for picnicking at Hickory Grove Park. The many picnic areas are designed to provide a view of the lake. Fire grills and drinking water are provided in many areas as well as tables, trash barrels and latrine facilities.



There are two enclosed lodges, each with tables, a fireplace, windows, and a view of the lake. There is a nominal fee required to insure that you have the lodges reserved for when you would like them. The lodges are available on a "first come-first served" basis if no reservations are made. In addition there are five large covered, but open, picnic shelters in the park. These are heavily used and are especially handy if rain begins to fall during picnic activities.

Breezy Bay campground with 55 campsites is within the confines of Hickory Grove Park. There is a centrally located bath house with hot water, flush toilets and showers. Electrical hookups are provided to 41 campsites and a dumping station is available. A special tenting area is provided for those tenters who prefer an area away from the "big rig campers." A primitive area with no modern campground facilities is located across the lake from the Breezy Bay area and camping here is less expensive. Every Saturday evening between Memorial Day and Labor Day weekends, there is a campground program consisting of naturalist talks, sing-a-longs, movies, or special presentations. The campgrounds are usually quite busy from mid-May through September.

The primary focal point of the park during the summer months is Hickory Grove Beach. The beach area is managed by the Story County Conservation Board staff and is open from Memorial Day to Labor Day each year. In addition it may remain open on weekends into September if the weather is warm enough. Soft drinks, sandwiches, and confection items are sold at the concession stand. Dressing rooms and showers are provided to bathers. Lifeguards are on duty at the roped off swimming area and a diving raft is available.

Hickory Grove Lake provides central Iowa with an excellent fishing resource. The Story County Conservation Board staff cooperates with the Iowa Conservation Commission in maintaining the fishery population of the lake. Presently crappie, bluegill, walleye, northern pike, largemouth bass, channel catfish and bullheads are all taken by anglers. Tiger muskies have been stocked as a predator species to try to increase the size of the "gills" and the crappies. In several years Hickory Grove Lake may offer a substantial muskie fishery.

Fishing at Hickory Grove Park is excellent. Catfish up to 22 pounds are taken from the lake. One party of three caught 18 "cats" in one afternoon in 1979. In 1980 fishermen have produced six "cats" larger than 15 pounds. It is not uncommon for a fisherman to show five to seven "cats" for an evening's effort. In the spring bass fishing often borders on phenomenal with some large trophies taken. Early summer is the time to take a mess of crappies and bluegills in no time, though they hit pretty well year round. The fishing does tend to slow down some during the "dog days" of summer but the onset of cooler weather in the fall means a resurgence in bass, crappie, and catfish activities. Some nice walleye are also taken on occasion.

Each year young catfish are reared at Hickory Grove Park in management cages. They are fed through the summer and released in September. In 1979, 3,600 were reared and released. In 1980 the same number will be released in the fall.

The Story County Conservation Board watches the fishing activities to assess management needs and cooperates with the Iowa Conservation Commission on periodic lake surveys to obtain essential data used in the fisheries management of the lake. It was decided recently by the

(Continued on Page 10)

WHITE AMUR PRODUCTION AT FAIRPORT FISH HATCHERY

By
Bruce A. Strunk
Fisheries Biologist

Photos by Author

Bruce Strunk is manager of the Fairport Fish Hatchery located near Muscatine. Strunk has been employed by the Conservation Commission since July 1974.

In recent years, the white amur, commonly called the grass carp, has come into the limelight as an effective means of biological vegetation control in many of our state and county lakes and ponds. Each year since 1973, the number of amurs stocked into selected lakes by the Iowa Conservation Commission fisheries program has increased to over 18,000 eight-inch long fingerlings in October and November of 1980.

The amur production is carried out at Fairport Fish Hatchery, a warm-water pond culture facility along the Mississippi River near Muscatine. The primary function of Fairport Hatchery is to hatch and rear largemouth bass and bluegill for statewide stockings. The white amur production has proved to be a valuable bonus for aquatic vegetation control.

Presently, newly-hatched amurs, called fry, are obtained from the Arkansas Fish and Game Commission in early June. The fry are shipped by air in sealed plastic bags inflated with pure oxygen to keep the fry alive. At this tiny size, the fry amurs must be handled with speed and care, and temperature fluctuations must be avoided to ensure a good survival. Upon arrival at Fairport, the fry are stocked into several plankton-laden ponds for initial growth to three inches. The plankton ponds are filled about ten days prior to fry introduction, and alfalfa pellets are added for fertilizer to promote good plankton growth. Predaceous insects such as back-swimmers may infest the ponds, and these have to be controlled, otherwise they would kill many of the tiny fry soon after stocking.

The fry feed heavily on the aquatic plankton for about thirty days, at which time they are about three inches long. During this time their diet gradually changes to aquatic vegetation entirely. Since the fish are larger and require much vegetation, the plankton ponds are drained and most of the amurs are stocked into more hatchery pond acreage for extra growth. At this time, the first week of July, more ponds become available at Fairport as the largemouth bass production season ends.

Some of these three-inch amurs may be stocked directly into waters that have been recently renovated to remove undesirable or unbalanced fish populations to offer immediate vegetation control. However, most of the amur stockings need to go into lakes that already have good populations of large predatory fish such as bass or pike. These amurs must be reared to at least eight-inch length to prevent undue predation by the larger gamefishes.

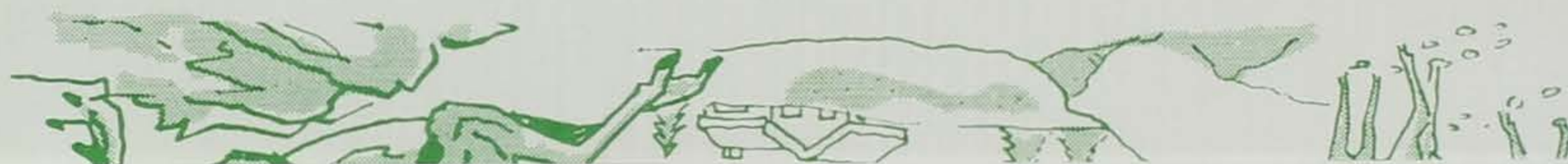
At Fairport, most of the ponds are needed for bluegill production during July through October. Since the three-inch amurs offer excellent non-chemical vegetation control, about one thousand are stocked per surface acre in the bluegill production ponds. The amurs are no threat to the bluegill, and actually promote better conditions for the bluegill by keeping nutrients available to the natural food chain that would otherwise be "tied up" in vegetation not usable by the bluegill fry. Amurs have a rather poor rate of conversion of food into actual body growth, so they must eat a lot of vegetation to show any growth. As a result, most of the nutrients of the vegetation consumed are passed through the amurs and made more available to the young bluegill which feed on plankton.

Other hatchery ponds not used for bluegill production are stocked more heavily with amurs only. Usually by the end of July, all the ponds are being supplemented with grass and vegetation clippings by hatchery personnel to satisfy the appetite of the amurs. When water temperatures drop in October, the amurs have achieved the acceptable eight-inch length and are stocked into public lakes and ponds.

Currently, hatchery personnel are working on an artificial spawning program similar to that in Arkansas. Rigid physical and biological requirements have so far held up the success, but hopefully these obstacles will be overcome in the near future. □



ght, typical aquatics vegetation
f growth. After second growing
zen in test nets (Red Haw Lake,



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WHITE AMUR AT FAIRPORT F

By
Bruce A. S
Fisheries Bi

Photos by /

*Bruce Strunk is manager of the F
near Muscatine. Strunk has been a
Commission since July 1974.*

In recent years, the white amur, commonly called the grass carp, has come into the limelight as an effective means of biological vegetation control in many of our state and county lakes and ponds. Each year since 1973, the number of amurs stocked into selected lakes by the Iowa Conservation Commission fisheries program has increased to over 18,000 eight-inch long fingerlings in October and November of 1980.

The amur production is carried out at Fairport Fish Hatchery, a warm-water pond culture facility along the Mississippi River near Muscatine. The primary function of Fairport Hatchery is to hatch and rear largemouth bass and bluegill for statewide stockings. The white amur production has proved to be a valuable bonus for aquatic vegetation control.

Presently, newly-hatched amurs, called fry, are obtained from the Arkansas Fish and Game Commission in early June. The fry are shipped by air in sealed plastic bags inflated with pure oxygen to keep the fry alive. At this tiny size, the fry amurs must be handled with speed and care, and temperature fluctuations must be avoided to ensure a good survival. Upon arrival at Fairport, the fry are stocked into several plankton-laden ponds for initial growth to three inches. The plankton ponds are filled about ten days prior to fry introduction, and alfalfa pellets are added for fertilizer to promote good plankton growth. Predaceous insects such as back-swimmers may infest the ponds, and these have to be controlled, otherwise they would kill many of the tiny fry soon after stocking.

The fry feed heavily on the aquatic plankton for about thirty days, at which time they are about three inches long. During this time their diet gradually changes to aquatic vegetation entirely. Since the fish are larger and require much vegetation, the plankton ponds are drained and most of the amurs are stocked into more hatchery pond acreage for extra growth. At this time, the first week of July, more ponds become available at Fairport as the largemouth bass production season ends.

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October, the amurs have achieved the acceptable eight-inch length and are stocked into public lakes and ponds.

Currently, hatchery personnel are working on an artificial spawning program similar to that in Arkansas. Rigid physical and biological requirements have so far held up the success, but hopefully these obstacles will be overcome in the near future. □

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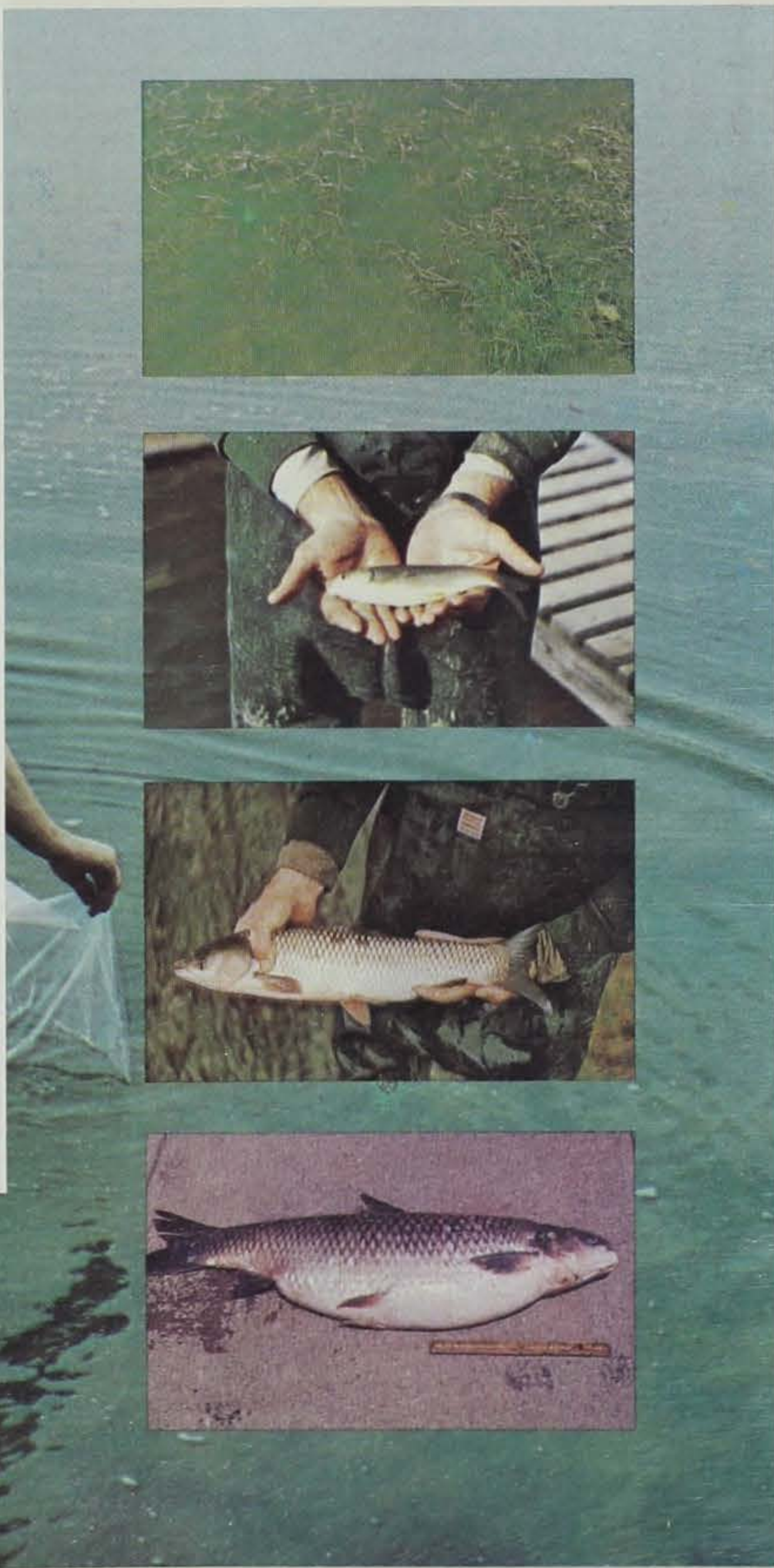
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ght, typical aquatics vegetation
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 zen in test nets (Red Haw Lake,



WHITE AMUR AT FAIRPORT

Bruce Strunk is manager of the hatchery near Muscatine. He has been on the Commission since 1973.

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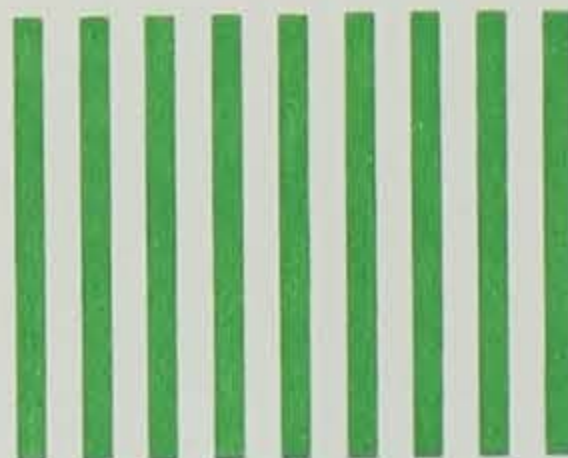


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White amur are released into a plankton-filled pond for growth to three inches. Top right, typical aquatics vegetation in hatching pond becomes forage for amur. This amur attained 8 inches in first year of growth. After second growing season, amur about triple their size. Fourth growing season, this "incredible hulk" taken in test nets (Red Haw Lake, Lucas County) weighed 17½ pounds.



(continued from Page 7) Iowa Conservation Commission that white amur (grass carp) would be stocked in the lake in order to keep the aquatic vegetation growth in check. The amur were stocked in Hickory Grove Lake in the fall of 1979.

Ice fishing is growing in popularity at Hickory Grove Park. Each winter a few more ice houses go up on the ice. The crappies and bluegills are plentiful, with bass and an occasional walleye or catfish taken.

Wildlife management at Hickory Grove Park is of special interest. Two wildlife management units exist in Hickory Grove Park. One of the primary uses of these areas is public hunting. Not many high use parks are designed and managed with hunting in mind. Waterfowl, pheasant, rabbit, and squirrel hunting is good. Some quail are also taken each year and the gray partridge has begun to move into the area as they steadily increase their range.

Management techniques include shrub and tree plantings, farming agreements with a farm cooperator allowing a portion of the crops to remain standing through the winter for food and cover, prairie grass plantings, and associated management. A sediment pond benefits waterfowl, as well as prevents some sedimentation of the lake. Mowing of pasture areas is deferred until nesting success is assured. This is usually after early to mid-July. The main concern for wildlife is habitat management. Prairie fires, special hunting and trapping regulations, plantings, and farm management are the main management tools. The main portion of the lake serves a wildlife refuge and during migration, ducks and geese stop to rest. Hunting adjacent cornfields and ponds is often very productive.

The forestry program at Hickory Grove Park is also increasing annually. An ambitious planting program is carried out each spring. A holding bed nursery is established and suitable stock is placed on site where needed with a tree spade. The Story County Conservation Board employs a forester who oversees the forestry program. A major part of his job is the care of planting trees and the nursery stock. Wound repair and insect treatment are also involved.

The Conservation Board hopes to utilize the forester as an extension agent offering technical advice to owners of private woodlots in the county. With the present increase in utilization of firewood as a heating fuel, this service may be in greater demand in the near future.

Winter means the harvesting of timber and tree trimming work. All the firewood for camper utilization is cut and split in the winter. Large logs to be used for benches and other conservation projects are logged and taken to the mill.

Seventy acres of Hickory Grove Park are in agricultural production. A large sixty acre field is farmed by modern practices. The rest are small acreage fields in the game management areas. The large field is leased annually by bids being submitted to the Story County Conservation Board by interested farmers. The generated revenues are used for wildlife plantings and habitat improvements. The smaller fields are farmed by the Colo High School FFA Chapter which benefits both the students and the wildlife.

A recent park visitor from eastern Iowa told me that he has come to Hickory Grove Park on several occasions over the last five years. He said that every time he comes there is something new. "You folks aren't content to just sit back and do the upkeep on what you have," he said. "You're always striving to improve. That's what I like about Hickory Grove Park. I think it's the best darn park per acre in Iowa!" That speaks highly for Hickory Grove Park. What higher compliment could he have paid us?

Today if one stands on the hill west of Hickory Grove Park, once occupied by Sam's cabin, and looks east as the sun sets

1981 Antlers

(continued from Page 5)

BOW AND ARROW NONTYPICAL

(Minimum Qualifying Score — 155 Points)

Name	Address	Year	County Taken	Total Score
Dirk L. Hoover	Algona	1980	Kossuth	164 ⁵ / ₈
Dick Rote	Redfield	1980	Guthrie	164
James Paul Jones	Menlo	1969	Guthrie	155

All-Time Top Ten Racks

SHOTGUN TYPICAL

Name	Address	Year	County Taken	Total Score
Wayne A. Bills	Des Moines	1974	Hamilton	199 ⁵ / ₈
George L. Ross	Ottumwa	1969	Wapello	195 ¹ / ₈
Dennis Vaudt	Storm Lake	1974	Cherokee	187 ⁵ / ₈
Randall Forney	Glenwood	1971	Fremont	186 ³ / ₈
Jack W. Chidester, Jr.	Albia	1976	Monroe	186 ¹ / ₈
Franklin Taylor	Blencoe	1976	Monona	185 ⁵ / ₈
Marvin Tippery	Council Bluffs	1971	Harrison	185 ¹ / ₈
Cecil Sitzman	LeMars	1957	Plymouth	184 ⁵ / ₈
Wayne Swartz	Bedford	1967	Taylor	183 ⁷ / ₈
Austin Watters	Ottumwa	1974	Van Buren	183 ⁶ / ₈

SHOTGUN NONTYPICAL

Name	Address	Year	County Taken	Total Score
Larry Raveling	Emmetsburg	1973	Clay	282 ⁵ / ₈
Carroll Johnson	Moorhead	1968	Monona	256 ³ / ₈
David Mandersheid	Wellton	1977	Jackson	253 ³ / ₈
Duane Fick	Des Moines	1972	Madison	228 ² / ₈
LeRoy Everhart	Sumner	1969	Van Buren	224 ⁴ / ₈
Donald Crossley	Hardy	1971	Humboldt	221 ³ / ₈
Mike Pies	Ackley	1977	Hardin	221 ² / ₈
John Meyers	Council Bluffs	1969	Pottawattamie	218 ³ / ₈
Tom McCormick	Harpers Ferry	1977	Allamakee	215 ¹ / ₈
M. V. Bruening	Hawkeye	1954	Allamakee	215

BOW AND ARROW TYPICAL

Name	Address	Year	County Taken	Total Score
Robert Miller	Wyoming	1977	Jones	198 ¹ / ₈
Lloyd Goad	Knoxville	1962	Monroe	197 ⁶ / ₈
Gary Wilson	Cherokee	1974	Cherokee	175 ⁴ / ₈
Gordon Hayes	Knoxville	1973	Marion	175 ¹ / ₈
Don McCullough	Conesville	1980	Muscatine	174 ⁷ / ₈
Jack Douglas	Creston	1974	Union	173 ² / ₈
Ardie Lockridge	Amana	1965	Iowa	172 ² / ₈
Bob Fudge	Burlington	1966	Des Moines	170 ⁴ / ₈
Bruce Jermyn	Des Moines	1979	Decatur	169 ² / ₈
Michael Anderson	Blue Grass	1977	Des Moines	168 ⁵ / ₈
Brad Vonk	Des Moines	1974	Warren	168 ⁵ / ₈

BOW AND ARROW NONTYPICAL

Name	Address	Year	County Taken	Total Score
Jerry Monson	Clear Lake	1977	Cerro Gordo	220 ⁷ / ₈
Blaine Salzkorn	Sutherland	1970	Clay	218 ¹ / ₈
Phillip M. Collier	Burlington	1978	Des Moines	203 ⁶ / ₈
Bill Erwin	Sioux City	1966	Woodbury	202 ⁵ / ₈
Dorrance Arnold	Oelwein	1977	Clayton	200 ⁵ / ₈
Dennis Ballard	Iowa City	1971	Johnson	197 ⁴ / ₈
Marsha Fairbanks	Martelle	1974	Jones	197 ¹ / ₈
Lyle Miller	Vinton	1977	Benton	188 ³ / ₈
Richard Rekemeyer	Maquoketa	1974	Jackson	186 ¹ / ₈
LeRoy Spiker	Harpers Ferry	1968	Allamakee	185 ¹ / ₈

behind him, he sees a view quite different from that of the 1850's. But the recreational opportunities he would be watching would be some of the best in central Iowa and I think the viewer would be inclined to leave his observation post and become an active participant rather than a casual observer. ■

IOWA CONSERVATIONIST/NOVEMBER 1981

CLASSROOM CORNER

by Bob Rye

ADMINISTRATOR, CONSERVATION EDUCATION CENTER

"We saw a white deer in our timber." "I trapped a raccoon that was a different color." "We have black squirrels at home but haven't seen any at the Education Center."

Fall's hunting seasons encourage many individuals to move out into the field and forest to scout the animals which live there. This scouting allows many to view the color differences in animals.

Nature displays a need for likeness as a commonplace trait. Nature wants to have every member of a specific species to look alike. Natural things have a function and that function is tied to survival. Some of color functions are finding a mate or an offspring, hiding from prey, and keeping warm.

With birds, having the right color is important to being recognized as a parent, potential mate, and as the right species with which to flock. The yellow-shafted flicker males have a dark moustache which distinguishes them from females.

Gloria, the Center secretary, has a radiometer on her desk. It is a scientific device for measuring radiant energy. It has dark and light sides to each vane which turns around a central point when the energy is present. The dark side absorbs light, forms heat and makes the vane turn. Toads which live in summer gardens take advantage of this color value. On a cool day, they are dark to absorb more heat. On hot days, they have lighter

skins which reflect the unnecessary heat. This aids them in maintaining a normal body temperature.

Dark coloring (black & brown) has additional purposes. Look at the markings on animals. Coyotes have dark lashes near the eyes which highlight the eyes and white around the muzzle. These markings help to draw attention to facial expressions, thereby, making the coyote appear more ferocious. Look at the humans you live near. Watch their eyebrows and foreheads as they talk with you. The lips on humans have contrasting colors for smiles, frowns and lip reading.

An over abundance of color, called melanism, is found in black squirrels and other black animals. This condition is caused by the type of genes they have. The black squirrels are born from the auburn-colored fox squirrels whose combination of genes cause this change to appear. They may be avoided by other squirrels because of their darker color.

The opposite of this melanism is called albinism. This, again, is a genetic result. Albinos can have normal-appearing parents. These animals stand out anywhere and anytime, except in winter snow storms. Albinos are found in deer, raccoons, opossums, squirrels, and others. They may not survive because they cannot conceal themselves from their predators. They also may have trouble finding a mate because they appear out-of-the-ordinary.

This color lesson of nature seems to go with nature's ways. Nature tends to stay on the tried and true path when the goal is survival. Take time to visit a park or wildlife area and watch the colors animals have. The Conservation Education Center has programs on colors. These can be arranged for your group by writing to: Conservation Education Center, R. R. #1, Box 53, Guthrie Center, Iowa 50115.

WARDEN'S DIARY

by Jerry Hoilien

SEEMS LIKE some folks are always trying to lump all people in one category. If there's one thing I've noticed in this business, there's *no set pattern* of what makes fish or game violators. They come from all walks of life, all ages, and all sizes . . . big, little, short and tall.

I remember one time I was issuing a citation to a young man for shooting a deer an hour before the season began, when the owner of the land got upset. "Why don't you get those city fellas who are always out here, and stop picking on us?" He went on to tell me about a ridge road not far away where they were always shooting up a storm. "If you wasn't so darn lazy, you'd catch 'em!"

Well, I tried to smooth it over, saying I just "take 'em as they come — no favorites." The young man

didn't seem disturbed, saying he had it coming and understood.

Anyway, that evening found me still working about dusk and I wasn't far from that ridge road, so I drove on over, and was surprised to see a car moving ahead of me about a quarter mile. I was even more surprised to see the brake lights come on, and then the back-up lights. By this time I'm right behind the car, only to see a rifle barrel come out the window. I glanced to the right just in time to see a big buck go down. I was along side and blocking the car off before the sound of the rifle echo died down.

Three men were arrested. They helped me load the deer as evidence and we went to town to see the judge. Their only comment to the judge was, "Man, did he have us cold!"

Well, I went back out that way the next day and ran into the gentleman I had been talking with the morning before. I told him of my experience and thanked him. He grunted, but I couldn't help going on, "Oh, by the way, care to guess what the driver of that car does? He farms. So does the guy in the front seat. I'll bet you can't guess what the guy in the back seat with the high power rifle does." He grunted again. I said, "You're right! I don't believe I'd mention sending the game warden up there to your neighbors. Bye."

Years ago we had to write the occupation on all the summons we wrote. I did a little study on my own and after lots of research found there is no correlation as to occupation, location, nationality, or anything else for that matter, on who violates the rules.

Sometimes it is background or upbringing. A major factor is what friends think. No fun doing

something like that if your closest friends don't approve; you can't brag about it.

The fear of being caught, paying a fine, or having your name in the paper disturbs most of us, I'm sure.

But basically it's respect for wildlife and how you yourself would feel. Sometimes it's because you've talked with the conservation officer and you'd hate to have him see you. Most people are honest and will do the right thing, if they know the rules and the reasons for them. Then there are those who just don't give a darn: "The heck with it!" "I've got a chance to get something and I'd better get it anyway I can."

Unfortunately this can have an effect on fish and wildlife populations, but even more damaging is the effect it has on another resource: people.

Teaching ethics and sportsmanship is one of our most difficult tasks.

Next time I'll tell you about what I call, "the maturing of a hunter."

Stone State Park

By Dale Brumm, Park Ranger
and
Hal Woolworth, Assistant Park Ranger

Photo by Jim Leachman

Stone State Park is Iowa's westernmost state park and is located in Woodbury and Plymouth Counties. This area is part of a geological oddity known as the "Loess Hills" and is found along the Missouri River. The park's history and natural beauty brings visitors from around the Midwest, but most of its use is by the local population of the three-state region, with a yearly visitation count of over a half million people.

The Indians who resided in northwest Iowa prior to European settlement included the Algonquin and Siouan. The Siouan tribes included the Dakotas, commonly referred to as the Sioux. These tribes were the last to occupy northwest Iowa; therefore, Stone Park is more close-

ly associated with them than any other Indian tribes.

Chief War Eagle of the Yankton tribe of Dakotas was a lifelong friend of the early settlers in the Sioux City area. In fact, in 1849 he allowed his daughter to marry a French fur trader. It also has been established that a brother of War Eagle lived in the area that is now part of Stone Park. After War Eagle's death in 1851, he was buried on a bluff overlooking the Big Sioux and Missouri Rivers. A monument and city park now at this site commemorates his association with the white man.

Exploration of the area by the Lewis and Clark expedition began in 1804. The main push west arrived in 1830 and in 1843 the naturalist Audubon explored the area south of the present park. During this period, the land of western Iowa was



acquired from Indians either by direct purchase of land, or by treaty. The only Indian nation allowed to remain was the Dakotas. On December 28, 1846, the present boundaries of Iowa were established and the area was voted into the Union by Congress as the 29th state.

After the Civil War, the first settlers who were issued claims by the United States government came to settle western Iowa. For the next 30 years this land changed ownership many times. In 1885, Daniel H. Talbot started to buy up the small ownerships until he acquired much of the area now called Stone Park. Mr. Talbot was an avid reader and built a respectable library and later a museum in the park area, projecting his interest in science and nature. Mr. Talbot's holdings were on such a scale that he hired a Mr. Ricketts to assist in the operation and upkeep of the farm. The Ricketts family lived in the park area during the ownership of Talbot, and still lived there when the state acquired it. A present picnic area is named Ricketts' Glen in their honor, and is where their house stood.

One popular building of the time was the "Old Barn" where Talbot mounted his bird and animal specimens on tables that could be hoisted to the ceiling when many dances occurred. A narrow balcony was built which shelved his varied collection of books. The mounted specimens were transferred to the University of Iowa by Mr. Talbot the day before the bank foreclosed on his property. Some of these specimens are still present today at McBride Hall. Even though the books of his library were also transferred, they were destroyed by a fire at the University.

In 1895, Thomas Jefferson Stone, who personally had loaned Talbot operating funds, acquired the area through foreclosure. Mr. Stone was very active in community development, not only as president of a bank, but also in his private life. Upon Mr. Stone's death in 1904, the land was willed to his wife, who died a year later. Joint ownership then descended to Edgar H. (son) and Alice E. Day (daughter). Edgar Stone developed the area as a private recreational park. Upon his death in 1911, his widow, Lucia, donated her half interest to the City of Sioux City to be used as a city park, thereby named "Stone Park". After Mrs. Day's death, the City purchased her half interest and added it to the park.

The transfer of the city park on July 25, 1935, to the State of Iowa was made by a city council proclamation for the benefit of the general public. This action made it possible to obtain federal funds for developing the park. Before the actual transfer was made, portions of the existing zoo in the park were transferred to

Riverside Park, a local amusement park. The monkeys, snakes, and some other animals were included in this move. The bears were left in Stone Park due to the cost of food and care and were still in the park until 1940. The concrete facilities made for the bears were razed in 1974.

Following the State's assumed ownership of the area, a Civilian Conservation Corps (CCC) camp was established in the park. After building a sawmill and blacksmith shop, the CCC made several park improvements. These included: picnic areas with water fountains, fireplaces, and picnic tables, a water system consisting of two wells and approximately three miles of water lines, four septic tank sewage systems, two shelters, one lodge, one modern and one nonmodern latrine, one service building, and two residences. The stone work which was done in the area is still visible today.

Approximately 25 miles of bridle and hiking trails were developed. These trails have multiple use, since snowmobiles are permitted on the bridle trails, and cross-country skiers use the hiking trails and roadways. Of the picnic areas developed, one was later converted to a modern camping area. Also, in 1961, a showerhouse was added for campers' convenience. This area also has electricity, water, and latrines.

Another facility developed was an ill-fated winter sports area. It included a well for water to flood the skating rink, portable rest rooms, and bleachers for the comfort of the public. Unfortunately, the rink would not hold water and the pump could not produce an adequate water supply. A bobsled run was developed, which was used for one season. It is reported that a serious accident ended its operation.

Portals were built at the east and west entrances. Memorial Drive, which is a street dedicated to the memory of World War I veterans, was paved by a Works Projects Administration (WPA) program. A stone memorial was to be built at the east end of this "Memorial Mile", but never materialized, probably due to lack of funds. A Sioux City citizen contributed trees to be planted in memory of World War I fatalities from the city. Elm trees were planted which succumbed to Dutch elm disease in the 1970's.

Additional lands have been added to the Stone, bringing the total acreage to 1,100 acres. The area purchase included the discontinued Boy Scout, Girl Scout, and Salvation Army camps, plus an acreage in the northwest corner of the park. Much of the area is timbered and quite hilly, with the exception of the former scout camp areas where some structures still remain.

More recent improvements include: a modern rest room designed for the handicapped, a service building that includes an office, shop, and rest room. Some road surfacing is scheduled for this year, after several delays. This will make all 7½ miles of roads dust-free. The telephone lines in the park have been buried and power lines could also be buried in the future to enhance the aesthetic value of the area.

Another improvement was recently established — the completion of a self-guided nature trail. The late Carolyn Bene, a noted naturalist from the area, designed such a trail, which was completed during the past spring. It is about one mile long and has 23 stations.

Stone Park has much to offer with its plant and animal life. From floodplain to prairie bluffs, more than 70 plant species have been identified. A few of the more unique are the prairie grasses and wild flowers, including the yucca plant.

A majority of the native Iowa birds and mammals exist in the park. With binoculars you can enjoy observing songbirds, waterfowl, and other species, close-up. At times you can be fortunate enough to get a glimpse of a soaring hawk, vulture, or eagle. Many deer, coyotes, or fox can be seen. Even the turkeys that were released in the spring of 1980 have been observed. The last wild buffalo killed in the state of Iowa reportedly occurred in 1868 in the area that is now Stone Park.

Even though the park is named "Stone", little native stone is visible. The types of stone present are "Dakota Sandstone", "Graneros Shale", and "Greenhorn Limestone", in which many fossils of sea life can be found. The Greenhorn Limestone was formed when the "Great Inland Sea", covered the area. Some other deposits were left consisting of a variety of rock known as glacial till.

The most unique geological feature is the Loess formation, characteristic of the Missouri River region. This soil was carried by the wind and deposited to a depth of 30 to 50 feet. Bluff formations occurred after the glaciers receded and drought began.

Many other features are present along with the ones briefly described here. A visit to Stone Park will yield further insight into a world that was and is a unique part of Iowa. ■

Dale Brumm has been employed with the Commission since 1963 as a park ranger. He presently is the park ranger at Stone State Park in Sioux City.

Hal Woolworth has been with the Commission since 1978. He is the assistant park ranger at Stone State Park.

THE PEOPLE'S CHOICE

By Jerry Hoilien
CONSERVATION OFFICER

"*Conservation Officer — Pull it over!*" a voice boomed loud and clear as a spotlight illuminated two men in a boat. The operator revved his motor, attempting to swerve around the boat blocking their escape, but there wasn't room in the narrow Mississippi River cut, as their boat slid up on the mud flat and came to a halt.

"*You're under arrest for unlawful hunting,*" the Officer told them as he climbed into their boat, seizing a gun and spotlight from them and passing five dead raccoons to his partner. Time: 4:45 A.M., the day before the raccoon season opened. Place: Johnson slough on the Mississippi River near Sny McGill landing south of McGregor in N.E. Iowa.

Ed Lawrence, State Conservation Officer, had spent several sleepless nights after receiving complaints of unlawful jacklighting (spotlighting) in the area. He had been waiting now, since he had first observed two men about 1:30 A.M. shining spotlights in the tree tops from their boat. They were moving fast as if they knew the river very well, with no running lights on the boat and the spotlight was not shining down along the water and bank for a navigational aid.

With Lawrence in the boat was Dick Hyde of Dubuque, a private citizen who volunteered to assist the officer as he put his boat in the river shortly after midnight. "*You're not going out there alone, are you?*" he asked. Men like this are rare but more and more are showing up as people become increasingly alarmed at the poaching going on within our state. "*I'm going with you — just tell me what to do!*"

The long cold wait paid off with the arrest of the two local men. From the evidence gathered, a search warrant was issued and 166 raccoon, 64 muskrat, 3 mink and 3 beaver pelts were confiscated from a freezer for possession during the closed season. The boat, motor, gun, spotlight, and other equipment were seized as evidence.

Subsequently the two men were found guilty in magistrate court and received fines of \$150 plus 15 days in jail each and their hunting licenses were suspended for three years. This was appealed to District Court where on March 20, 1980 after another trial they were again found guilty. Officials of the U.S. Fish & Wildlife Refuge notified them their trapping privileges on the Mississippi River refuge system were suspended

for three years. They then appealed to the Iowa Supreme Court which confirmed the conviction. At this writing the warrants of arrest are being sought for the two subjects to serve the jail time. The arrest was made Nov. 2, 1978. The wheels of justice turn slowly, but they do turn.

Few people, outside of law enforcement officers, attorneys and judges, are aware of the detailed effort that goes into the successful apprehension and prosecution of a case of this type. Many hours of preparation and training, then surveillance, sometimes taking days, and nights of patient waiting for the right opportunity for observance of the violation and consequent apprehension. Then comes the paper work, labeling of evidence, storage, chain of custody, and filing the proper papers and charges. A complete resume of the happenings must be documented. All information is submitted to the county attorney, who must develop it into a presentable case for a judge and jury with all the technical details correct and proving beyond any reasonable doubt the individuals are guilty, often not just once but several times over a period of several years later.

Three things stand out in this incident: We have major poaching going on within our state — the value of those furs could run as high as \$8000.00. The officers are working long and hard hours in the apprehension and have the strong support of the sportsmen of Iowa who will go as far as Dick Hyde did in stopping this blight on their sport. The legislature and courts are in support of our officers in their endeavors. The Supreme Court decision, one of the few wildlife cases appealed thus far, gave reassurance to the Iowa laws governing the burden-of-proof required of the holder of game within the state to show if it was legally taken outside the state.

Not that we can rest on our laurels. More and better trained Officers are needed for the ever increasing workload placed upon these men. Regulations must be updated and realistic penalties assigned to act as a deterrent for those who would rape our fish and wildlife populations. A cooperative spirit from our citizens which have the million eyes and ears to assist our enforcement effort is vital. In other words we simply need more and better enforcement of good laws with the support and cooperation of our sportsmen. ■

Jerry Hoilien is a Conservation Officer who is assigned to Allamakee County with area officer responsibilities. He has been employed with the Commission since 1960.



Conservation officers Ed Lawrence, left, and Bob Oden with boat load of confiscated furs valued at approximately \$5000.

Mallard Morning

by Roger Sparks

THE WADERS are one size too large, the sweathood, one too small. The numbing dampness around the left leg, hands that ache for outlaw gloves and heavy eyelids itching from neglected rest are all forgotten with the yielding of the black fog. Predawn life awakens a goosebump breeze, but the cold uneasiness of night water warms with first light.

As the minutes crawl, images of familiar features are perceived in the translucent east. Somewhere over the willow bank at the far end of the pothole, outboard motors have stirred the evening's inhabitants. Invisible wings whistle above and sharpen the edge of a cold November morning.

Hands work with mechanical quickness, for today, many decoys will be needed. This is big water and the mid-season mallards are bunched. The small exploring flocks, ripe with half-colored juveniles, vanished with the October moon. Now, only large spreads in choice spots can lure the nervous feeders.

Marsh mud is marsh mud and as we struggle through it, we discuss the worsening effect of yearly silt loads, although reason concludes the stuff is no deeper nor softer than last fall. Perhaps too many Sundays of roast duck dressing cause the perspiration on a graying temple. A dog trained to place decoys could own our homes, we muse.

The talk turns to other days like this one, with skeins of ducks bent for corn adding character to a dull sky. Indeed this day seems right. A sharp, damp wind now stings the backs of our necks and heavy clouds are present to prevent the sun from creating silhouettes of drakes and hens alike. A pair of wood ducks, rare inhabitants of northern marshes in November, squeal overhead. Snow geese come close enough to hear, but not see before first shots from upwind silence the marsh. It is the period of staring and waiting.

The first workable flock waves across our left and several ducks pull out, circle us high, then ignore our calls completely. Far to the right a pair drops smoothly to another spread and two shots claim one. Another flock half-swings the decoys before following a wise leader to corn. A single hen slips in unnoticed and plops down momentarily before spooking from the inhospitable blocks. We pour coffee.

Light shooting characterizes the marsh during these days of refuge-oriented flights. We are not impatient, however, knowing that at least a few corn-stuffed mallards may be tempted to splash down early upon their return from the golden oceans of picked grain fields. By midmorning, not a crumb is left of our lunch.

Perhaps it is because they fly a bit lower than the others, or maybe an ancient sense that bonds man to wild things comes into play. Whatever the reason, there is an immediate excitement in the sight of an approaching flock accompanied by the knowledge that this particular group will work.

On top of us now and not too high, the wings nonetheless continue to flash against the gray sky. Could it be we were wrong about this flock? There are many ducks overhead — perhaps 100 or more — and ducks in a large group can be wary. I chance a peek over my shoulder and pick up the tail end of the string. I see what I had hoped to see. Their wings are locked and they are turning. We glance at each other, acknowledging that the calling must be flawless and movement in the boat must cease.



Drifting back slowly, the vanguard of the flock descends to 60 yards and swings directly toward the decoys. The others skirt us to the open water on our right. Out front they merge and drop to 20 yards, wings cupping in unison, as if rehearsed through the ages. The seconds crawl as the mallards use the wind to ease themselves cautiously toward the spread. At 60 yards in front of us, about half the flock regains wingbeat and clears the willowbat to the left. At 50 yards, many more peel off and only a few reach gunning range.

It would be tempting to take the two plump drakes suspended over the outside decoys, but the stakes are high and we pass the snack for a chance at the banquet. They lift out to join the others, now stringing out to our left and rear, but, thankfully, still winging low. Amassed behind us and driven by the wind, the mallards come hard upon our blind, not 20 yards high. Again, temptation yields to experience and our feed chuckles are lost in a roar of wings. Out front once more the flock rolls with certainty against the wind and every bird now seems to be controlled by our calls. The acrobatics begin as the parachuting flock breaks up, each bird eager to join the latent comrades below.

A dog leans quietly against my leg and we shake together. Dozens of ducks are hovering over the decoys and many more fold in behind. Without saying a word, we stand together and sight down the barrels of an American tradition that ranges far beyond the lives of a hundred mallards and two men. ■

Roger Sparks has served as editor of the Iowa Conservationist for 13 years.

